Fighting malaria resistance – a powerful bond

FAU scientists are researching the effectiveness of hybrid medicines against drug-resistant malaria parasites.

Drug-resistant malaria parasites are on the increase. Researchers at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) have now discovered that hybrid compounds of existing medicines may provide an effective way of treating the disease. They have published their findings in Angewandte Chemie International Edition.

As malaria parasites are increasingly becoming resistant to the medicines currently used, such as chloroquine, the World Health Organisation (WHO) usually recommends treating malaria with a combination of artemisinin, extracted from the sweet wormwood plant, and one other antimalarial medicine.

Together with Universität Göttingen and the China Academy of Chinese Medical Sciences, Prof. Dr. Svetlana B. Tsogoeva, professor of organic chemistry at FAU, has now discovered that hybrids consisting of two existing medicines for treating malaria which are chemically bonded kill drug-resistant malaria parasites more effectively and efficiently than the individual medicines or a combination thereof. Both active substances which are linked in one hybrid molecule enter the parasite at the same time. As a result, they can bind simultaneously to different target proteins, launching a two-pronged and more effective attack on the disease.

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